



Nov 2017

No.350

The Postwar British Productivity Failure

Nicholas Crafts

WORKING PAPER SERIES

Centre for Competitive Advantage in the Global Economy

Department of Economics



The Postwar British Productivity Failure

Nicholas Crafts

November 2017

Abstract

British productivity growth disappointed during the early postwar period. This reflected inadequate investment in equipment and skills but also entailed inefficient use of inputs. Weak management, dysfunctional industrial relations, and badly-designed economic policy were all implicated. The policy framework was partly the result of seeking low unemployment through wage restraint by appeasement of organized labour. A key aspect was weak competition. This exacerbated corporate-governance and industrial-relations problems in the British 'variety of capitalism' which sustained low effort bargains and managerial incompetence. Other varieties of capitalism were better placed to achieve fast growth but were infeasible for Britain given its history.

Keywords: competition; productivity; relative economic decline; varieties of capitalism

JEL Classification: N14; O62; P170

Acknowledgement: This paper is based on a lecture delivered at the Erasmus Forum on May 18, 2017

Introduction

Labour productivity (output per unit of labour input) is a fundamental aspect of the performance of an economy. Growth of labour productivity underpins increases in wages and living standards. The level of labour productivity reflects the extent of physical capital in terms of machinery and buildings, education and skills, and technology. In turn, at any point in time, the availability of these factors of production is the result of investments of various kinds during previous periods and will reflect required rates of return and the availability of finance. In addition, labour productivity is strongly influenced by the efficiency with which labour and the other inputs are used. In turn, efficiency depends on how well resources are allocated across firms and sectors and also on the effectiveness of management and on effort bargains between firms and their workers. It follows that labour productivity will be affected by institutions and government policies that inform incentives to invest, innovate and eliminate slack.

The aim of this paper is to describe and explain British productivity performance during the so-called 'Golden Age' of European economic growth which is conventionally taken to be 1950 to 1973. The exposition will consider the British experience in terms of international comparisons. When this is done it is apparent that the period was one of serious relative economic decline which culminated in the UK being overtaken in levels of income and productivity by its European peer group. I regard this as an 'avoidable but understandable' failure.

I shall argue that there were institutional weaknesses and policy errors which undermined British productivity in this period. Up to a point this will represent a fairly conventional account. Beyond this, however, I shall also explore interactions between institutions and policies which compounded their effects on productivity and develop the point that this unholy cocktail can only be properly understood by placing it in an appropriate historical context. More contentiously, I shall suggest that to a significant extent these unfortunate developments have their origins in Britain's early start in industrialization.

Relative Economic Decline

The concept of 'relative economic decline' relates to international comparisons of the level of real GDP per person. As applied to Britain, it means that over many decades economic growth was slower than in a peer group of other countries with the result that they first caught up and then overtook British income levels. As is reported in Table 1, this describes the period from the 1870s to the 1970s. Relative economic decline was most apparent vis-a-vis the United States from the American Civil War to 1950 and compared with European countries during the 1950s to the 1970s. Thus, while West Germany and France were, respectively, at 61.7 and 74.7 percent of UK GDP/person in 1950 by 1973 they were 9.3 and 6.6 per cent, respectively, above the UK level.

Relative economic decline did not mean that British economic growth slowed down after World War II but rather that other countries accelerated more (cf. Table 2). During the 'Golden Age', Britain experienced its fastest-ever economic growth but at the same time relative economic decline proceeded at a rapid rate vis-à-vis its European peer group such that by the end of the period Britain had been overtaken by seven other countries in terms of real GDP per person and by nine others in terms of labour productivity. UK growth was slower by at least 0.7 percentage points per year compared with any other country including those who started the period with similar or higher

income levels. Although slower growth can be partly explained by virtue of a higher initial level of income and productivity, being overtaken by France and West Germany is a clear indicator of avoidable failure. A regression analysis suggests that there was a growth failure of about 0.8 percentage points per year cumulating to an income shortfall of almost 20 per cent by 1973.¹

As might be expected, slower growth of real GDP per person in the UK compared with France and West Germany is largely accounted for by slower growth of labour productivity.² Table 2 indicates that the annual average rate of growth of real GDP/hour worked in West Germany was 3 percentage points above that of the UK during 1950 to 1973 and with regard to France the gap was over 2 percentage points. As is reported in Table 3, this meant that by 1973 both France and West Germany had levels of labour productivity about 10 per cent higher than that of the UK even though they had been way behind in 1950.

The Proximate Sources of Inferior Productivity Performance

The idea of 'proximate sources' of labour productivity refers to factors directly related to levels of performance. So we consider questions such as 'how much did differences in labour quality contribute to labour productivity differentials?' either over time or between countries rather than seeking to explain why such differences existed. Compared with West Germany which is the most interesting case, to a first approximation relatively slow labour productivity growth resulted about equally from weaker capital per worker and TFP growth (O'Mahony, 1999).³ This implies that the UK invested less and improved its efficiency and technology more slowly than West Germany. In addition, the skills of the German labour force increased more quickly reflecting in particular a higher amount of vocational training (Broadberry and O'Mahony, 2007).

These points are borne out by Tables 4 and 5. The data in Table 4 show that the UK invested a lower share of GDP than West Germany and had a lot fewer workers with intermediate qualifications. Years of schooling were slightly lower in the UK than in its peer group. A crude indicator of the quality of schooling can be obtained from standardized international test scores in mathematics and science where in the mid 1960s the UK was a little below France and Germany but ahead of the United States (Woessmann, 2016). Empirical evidence predicts that the shortfall compared with West Germany would have had a small adverse impact on growth.⁴

In Table 5, we see that between 1950 and 1973 West Germany reversed an initial skills gap and moved to a position where superior labour quality was an important reason for its labour productivity advantage. Labour force qualifications increased markedly after World War II. In 1950,

¹ The shortfall is calculated after controlling for greater scope for growth in countries which had larger productivity gaps with the United States. It is large enough to be a real cause for concern but it is also fair to say that 'decline' is an ideological construct which has been associated with the politicization of economic policy (Tomlinson, 1996).

² The rate of growth of real GDP per person equals the rate of growth of real GDP per hour worked plus the rate of growth of hours worked per person. Hours worked per person fell in this period but relatively slowly.

³ TFP or total factor productivity growth is the rate of growth of output per unit of total input. It results from improvements in the efficiency with which inputs such as capital, labour and skills are used and/or the technological knowledge which underpins the output that those inputs can produce.

⁴ Converted into modern PISA equivalents, the UK was in the low 490s while France and West Germany were around 500 (Woessmann, 2016). The regression estimates in Hanushek and Woessmann (2012) indicate that the UK would suffer a growth penalty of about 0.1 per cent per year.

15.1 per cent of the German labour force had intermediate level or above whereas at the end of the 1970s this figure had risen to 65.4 per cent. The UK improved rather less rapidly – the comparable figures were 11.7 per cent in 1950 and 28.6 per cent in the late 1970s. By 1973 this was backed up by also having more capital per worker.

A big British lead in TFP in 1950 had more or less been eliminated by 1973. This does not reflect a shortfall in British R & D and is probably mainly a result of improved relative efficiency in the German economy. Maddison (1996) attempted a decomposition of the sources of TFP growth and he concluded that the shortfall in Britain could not be explained away by lower scope for catch-up or the structure of the economy although clearly rapid TFP growth in countries like West Germany did reflect reconstruction, reductions in the inefficient allocation of resources, and lower initial productivity (Temin, 2002). Industrial case studies indicate a high incidence of inefficient use of labour in the British economy in the 1960s and early 1970s (Pratten and Atkinson, 1976).

The Usual Suspects

It is commonplace and, at one level, quite correct to attribute the British productivity failure to incompetent management, debilitating industrial relations and serious government policy errors. An indictment along these lines can easily be compiled. Commentators regularly highlighted the importance of social background and the prevalence of non-technical education among British managers (Acton Society Trust, 1956; Swords-Isherwood, 1980). Prais (1981) conducted case studies of the impact of industrial relations in the 1960s and 1970s on productivity improvement. In 6 out of 10 industries (brewing, metal boxes, motor vehicles, newspapers, tobacco, and tyres) he found that, when technological improvements came along, increases in productivity had been retarded by problems of negotiating manning levels with trade unions.

Pratten and Atkinson (1976) reviewed 25 case studies of which 23 reported inefficient use of labour, in 21 cases from failings of management and in 14 instances from restrictive labour practices. Inefficient use of labour and industrial relations problems accounted for a significant productivity gap in multinational companies between British plants and those in Germany or the United States in 1972 (Table 6) which would not have surprised the business respondents to an Oxford survey in the late 1940s who thought such problems were prevalent (Andrews and Brunner, 1950). In a well-known and egregious case, motor vehicles, management completely lost control of effort norms in the switch to measured day work with disastrous consequences for productivity (Lewchuk, 1987).

Areas of concern relating to government intervention include the structure of taxation, the performance of nationalized industries, industrial policy, competition policy, and international trade policy. A tax system more conducive to growth would have broadened the tax base, reduced high marginal tax rates, and shifted the balance away from direct to indirect taxation. Tanzi (1969) was highly critical of income tax on the grounds that it featured very high marginal rates – the top rate was 97.5 per cent in 1949 and 88.75 per cent in 1973 – he described the system as the least growth friendly of all the OECD countries included in his study. Another notable failure was the long delay before Value-Added Tax was finally introduced in 1973.

By the 1970s, it was clear that nationalization was an experiment that had failed. In a typical year (1971), the nationalized industries accounted for 18.7 per cent of investment, 7.2 per cent of employment and 10.2 per cent of GDP (Corti, 1976) but the productivity and financial performance

of nationalized industries was deeply disappointing. Both inefficient use of labour and excessive investment were serious problems (Vickers and Yarrow, 1988). It became apparent that pricing and investment rules were flouted either by management or through political interference (NEDO, 1976). This amounted to ownership without effective control.

Selective industrial policy was used increasingly over time but also with little success. Although 'picking winners' may have been the aspiration, "it was losers like Rolls Royce, British Leyland and Alfred Herbert who picked Ministers" (Morris and Stout, 1985, p. 873). Moreover, policies to subsidize British high-technology industries were notably unsuccessful in this period in a number of cases including civil aircraft, which by 1974 had cost £1.5 billion at 1974 prices for a return of £0.14 billion (Gardner, 1976), computers (Hendry, 1989) and nuclear power (Cowan, 1990).⁵ A horizontal policy such as an R & D tax credit would surely have been more appropriate than vain attempts to create 'national champions'.

Competition policy was largely ineffective and market power was substantial. Competition policy was inaugurated with the Monopolies and Restrictive Practices Commission in 1948, evolved through the Restrictive Practices Act (1956) and the Monopolies and Mergers Commission (1965), but was mostly ineffective (Clarke et al., 1998). Few investigations took place, very few mergers were prevented, the process was politicized, a variety of 'public-interest' defences for anti-competitive activities were allowed, and there were no penalties for bad behaviour. Only the Restrictive Practices Act had teeth but its attack on collusion was ultimately undermined by cartels being superseded by mergers. The initial impact of the 1956 Act was to boost productivity growth significantly (Symeonidis, 2008) suggesting that weak competition policy was a big mistake.

Weak competition in product markets was buttressed by protectionism which the UK was very slow to give up by comparison with its European peer group. Delayed entry to the European Economic Community which the UK did not join until 1973 was an important part of this. Accordingly, average tariff rates on UK manufactures were still 14.5 per cent in 1960 and a comparison for 1958 showed tariffs were typically 2 to 3 times the rate for the same industrial sector in West Germany. Whereas trade costs fell dramatically within the EEC in the 1960s for the UK this was delayed until the 1970s (Crafts, 2012). I estimate that joining the EEC raised the level of UK GDP by about 8 to 10 per cent notably through increasing the volume of trade and strengthening competition (Crafts, 2016).

The Postwar Consensus

In this context the concept of the 'postwar consensus' should be understood as the set of policies regarded as feasible by senior politicians and civil servants given presumed political constraints (Kavanagh and Morris, 1994). This implied a high degree of policy convergence but did not connote ideological convergence between the Conservative and Labour parties (Hickson, 2004). In particular, in the aftermath of the interwar experience of high, and in many areas persistent, unemployment, this implied a very strong commitment to maintaining full employment.

In the famous 1944 White Paper the government made a commitment to 'the maintenance of a high and stable level of employment' (BPP, 1944). Also, it came to be widely believed that Keynesian

⁵ Concorde and the Advanced Gas-Cooled Reactor were egregious policy errors (Henderson, 1977).

economics provided policymakers with the tools to achieve this goal.⁶ Accordingly, postwar governments thought that failure to do so would mean electoral defeat. The influential analysis of opinion poll data by Goodhart and Bhansali (1970) gives substance to this belief. They found that unemployment greater than 400,000 (about 1.8% of the labour force) implied that the governing party had no chance of leading in the polls; clearly, presiding over a return to interwar levels of unemployment (never less than 1.8 million) would be electoral suicide. The expansionary fiscal-policy response to quite small increases in unemployment suggests that politicians were well aware of this political arithmetic (Mosley, 1984). During the 1950s and first half of the 1960s the unemployment rate averaged under 1.6 per cent and was above 2 per cent in only three years.

Achieving very low levels of unemployment without igniting inflation meant persuading the leaders of trade unions not to exploit their bargaining power and to exercise wage restraint. This encouraged successive governments, notably in the 1950s and the 1970s, to seek wage restraint through accepting serious constraints on economic policy (Flanagan et al., 1983).⁷ The policy worked initially in the sense that the 'post-war settlement' reduced the NAIRU quite considerably and permitted the very low levels of unemployment seen in the 1950s (Broadberry, 1994) but in the long run there was a significant cost in terms of inferior productivity performance. And as wage bargaining became more decentralized and gravitated to the shop floor, shop stewards rather than trade union leaders exploited their bargaining power.

There is then a common element to many of the policy failures of the early postwar decades, namely, that reforms were not pursued because of a desire not to upset organized labour and this extended, indeed, even to a willingness to accept an implicit trade-union veto. This includes, for example, retaining insane marginal rates of income tax and expanding rather than contracting the scope of state-owned industries in the 1970s besides, of course, being unable to reform the system of industrial relations.

The British Variety of Capitalism

The term 'varieties of capitalism' was coined by Hall and Soskice (2001) and refers to the different sets of institutions which govern the workings of a market economy notably in terms of the ways that capital and labour markets operate. Hall and Soskice (2001) describe the archetypal coordinated market economy (CME) as having a set of complementary institutions that deliver patient capital and wage moderation together with high levels of investment in specific human capital in firms and incremental innovation. The basis for this is bank finance with block holdings of shares, corporatist industrial relations, strong coordination of employers, and cooperative inter-firm relations. This can be described as a system of 'inside control'. By contrast, the complementary institutions of the archetypal liberal market economy (LME) feature equity finance with diffuse

⁶ Even so, already in the late 1930s and early 1940s, Keynesian economists (notably James Meade) worried about the inflationary consequences of using demand management to reduce unemployment to very low levels since this would imply wage-push inflation. Some kind of 'wages policy' would be required to deal with this issue (Jones, 1987). In other words, these economists were aware that Keynesian policies would probably entail trying to achievement unemployment rates below the NAIRU (i.e., the unemployment rate at which there would be no acceleration of inflation).

⁷ A classic example is the abandonment in 1952 by the new Conservative government of the ROBOT scheme to float the pound which was seen by its supporters as integral to strengthening the role of market forces in the economy (Bulpitt and Burnham, 1999).

shareholdings, general human capital formation in colleges, strong competition between firms, and deregulated, flexible labour markets. This is a system of 'outside control' with much greater asymmetry of information between managers and owners, with a tendency to prefer early payoffs to investment. The advantages of these arrangements are in radical innovation and speedy adjustment to new circumstances.

Whereas West Germany can be seen as an orthodox CME which sustained high levels of capital formation and vocational training (cf. Table 4), postwar Britain was an LME but some idiosyncratic features. This was not an economy with a high degree of patience among either investors or workers. First, Britain had a distinctive and unreformed system of industrial relations characterized by craft control, multi-unionism, legal immunities for trade unions, and strong but decentralized collective bargaining reflected in increasing trade union membership and the proliferation of shop stewards (Crouch, 1993). These arrangements in conditions of full employment and weak competition gave trade unions bargaining power and rents to extract while exposing sunk-costs investment to a 'hold-up' problem.⁸

Second, corporate governance in postwar Britain was notable for a strongly increasing tendency to the separation of ownership and control, where strong shareholders became much less common, which also made it a real outlier within Europe. This reflected the demise of family control, the dilution of equity holdings through mergers, and a tax system which discouraged individual but favoured institutional investors (Cheffins, 2008). Given that the market for corporate control through takeovers did not work effectively as a constraint (Cosh et al., 2008), the weakness of competition allowed considerable scope for managerial underperformance.

Eichengreen (1996) argued that a route to rapid catch-up growth during the Golden Age could be based on a cooperative equilibrium between workers and firms which sustained wage moderation in return for high investment. These 'corporatist' arrangements provided institutions to monitor capitalists' compliance and centralized wage bargaining which protected high-investment firms and prevented free-riding by sub-sets of workers.⁹ The central foundation of this cooperative equilibrium is that both sides are patient and take a long-term view of the payoffs to their decisions – unlike postwar Britain! If, as the Eichengreen hypothesis implies, the CME was a favourable institutional configuration during the Golden Age of European growth, then the British variety of capitalism was at a disadvantage.

A Malfunctioning LME

Strong competition in product markets is a crucial element of a successful LME. Unfortunately, the 1950s and 1960s were a period of very weak competition in the UK. Initially, collusive activity was widespread; an examination of the agreements registered in compliance with the 1956 Act shows that only 27 per cent of manufacturing was free of price-fixing and 35.7 per cent was cartelized

⁸ The 'hold-up' problem arises when after an investment has been made workers use their bargaining power to extract a share of the profits. This reduces the incentive to innovate and thus the rate of growth. The more unions are involved in the bargaining, the more profits are reduced. The problem can be eliminated if a binding contract prevents renegotiation or there is no union or if a cooperative equilibrium is achieved with a single union. For a formal model and empirical evidence, see Bean and Crafts (1996).

⁹ In an empirical investigation, Gilmore (2009) found that coordinated wage bargaining had strong positive effects on investment and growth in Western Europe in the 1960s.

(Broadberry and Crafts, 2001). Crafts and Mills (2005) estimated that the ratio of prices to costs in UK manufacturing during 1954-73 averaged over 2 compared with around 1.1 in West Germany which is consistent with the finding in Geroski and Jacquemin (1988) that the magnitude and persistence of supernormal profits for large firms during 1949 to 1977 was large in the UK but that significant deviations from competitive outcomes were not observed in West Germany in the 1960s and 1970s. As noted earlier, UK competition policy was largely ineffective and trade policies remained as protectionist as in the 1930s during this period.

Competition matters partly because of its impact on managerial performance and productivity when shareholders are relatively weak. Competition is an effective antidote to principal-agent problems within firms that involve managers whose interests are imperfectly aligned with owners failing to minimize costs with adverse effects on productivity. In this context, weak shareholders who face free-rider problems in monitoring management find competition helpful in devising contracts that incentivize managers appropriately while competition also raises the sensitivity of profits to managerial actions (Nickell, 1996). Competition promotes good management practices which in turn pay off in improved productivity outcomes (Bloom and van Reenen, 2007). Additionally, product market competition reduces slack and acts as a disciplinary device fostering the adoption of new technology.

Product-market competition also has implications for productivity outcomes through industrial relations. The existence of supernormal profits is the basis on which trade unions can promise rewards for membership (Brown et al., 2008). The profits resulting from market power are typically shared with workers depending on bargaining power (Blanchflower et al., 1996). But workers may also bargain for lower work effort (overstaffing) or resist the introduction of new working practices when there are rents available to be shared. If this is the form that bargaining takes, then it is straightforward to produce models which predict that increased competition will improve productivity levels and growth rates (Haskel, 1991; Machin and Wadhvani, 1989).

Thus, we might expect productivity performance in the post-war British economy to be adversely affected by the interaction of its institutional idiosyncracies in respect of corporate governance and industrial relations with weak competition which exacerbated the downside of this configuration. This would seem to be a recipe for a malfunctioning LME and indeed the empirical evidence lends considerable support to this diagnosis.

With regard to control of managers by shareholders, three points stand out. First, greater competition raised productivity growth where firms did not have a dominant external shareholder (Nickell et al., 1997). In this (typical) case, a fall in supernormal profits from 15 to 5 per cent of value-added raised TFP growth by 1 per percentage point per year. Moreover, increases in interest payments relative to cash flow also promoted significantly faster productivity growth.¹⁰ Second, greater competition was good for innovation. Geroski (1990) found that, once differences in technological opportunity across industries were taken into account, in the 1970s the positive effects of market power working through expected profits were heavily outweighed by negative effects on managerial effort. Third, competition through the market for corporate control did not work efficiently to discipline bad managers and remove poor performers. Size rather than efficiency or long-term investment was the key to survival (Singh, 1975). Mergers did not generally deliver

¹⁰ This suggests that principal-agent problems were an issue when management was in the comfort zone.

productivity gains (Meeks, 1977) but were the result of management pursuing its own interests rather than those of the shareholders (Newbould, 1970).

Turning to the interaction of competition and industrial relations, the best evidence comes from the 1980s' Workplace Industrial Relations Surveys (WIRS) at a time when competition in product markets increased substantially. The 1980s saw a surge in productivity growth in unionized firms as changes in working practices took place under pressure of competition (Machin and Wadhvani, 1989) and de-recognition of unions in the context of increases in foreign competition had a strong effect on productivity growth in the late 1980s (Gregg et al., 1993). The negative impact of multi-unionism on TFP growth, apparent from the 1950s through the 1970s when it reduced TFP growth on average by 0.75 per cent per year in industries with this characteristic, evaporated after 1979 (Bean and Crafts, 1996).

In sum, the interaction of weak competition with institutional legacies in the corporate governance of large companies and the system of industrial relations was not favourable for productivity performance. It allowed bad management to persist in an era of weak shareholders and provided supernormal profits which were shared with multiple unions in higher wages and lower effort. This implied that the productivity potential of new technology was less than fully realized.

History Matters

In the tradition of Douglass North (1990), it is widely held among economic historians that there is a strong tendency for institutions to be 'persistent'. Institutions are frequently slow to change and very difficult to reform and their evolution follows a trajectory from which it is hard to diverge. There is no strong tendency for 'good' to drive out 'bad' institutions. Existing institutions may be supported by vested interests that can resist change. So, institutional legacies are a major reason why history matters and, on occasion, their roots can be found in quite distant history.

In this vein, the idiosyncratic institutions, namely, the British systems of corporate governance and industrial relations, which lie at the heart of Britain's postwar productivity failure can be seen as the grandchildren of designs which date back to the days of early industrialization and which differ from those of European countries which industrialized later. Well before the start of the 20th century Britain was already in an LME configuration which would be long-lived.

By the early 20th century the British system of industrial relations had developed considerably from the Industrial Revolution era but retained distinctive features inherited from the mid 19th century. Many more workers were members of trade unions – almost 25 per cent of the labour force in 1913 compared with 4 per cent as recently as 1890 - and collective bargaining over wages had become quite widespread – 2.4 million workers covered by such agreements in 1910 (Aldcroft and Oliver, 2000). By then trade unionism was spreading to unskilled workers but its defining characteristic remained craft unionism. So in many important industries multi-unionism prevailed and the typical union represented a small subset of the workforce. Despite the founding of the Trade Union Congress (TUC) in 1868, industrial relations remained de-centralized.

The continued strength of craft unionism entailed craft control of work on the shopfloor and the use of piece rates to elicit effort. This had emerged as a solution to appropriation problems during the Industrial Revolution and was still the preferred management style of many British employers at

least partly because they perceived the 'switching costs' of imposing greater direct managerial control as too high. There were periodic disputes over the details of these arrangements including, most notably, the engineering lockout of 1897/8 but in the aftermath employers did not seek to end craft control on this and other occasions when they 'won' the dispute. Arguably, these institutional arrangements served Britain well through the 19th century (Lazonick, 1994). When, however, the Fordist technologies of the second industrial revolution came along with requirements for large sunk-cost investments in fixed capital firms were inhibited from adopting them by exposure to 'hold-up' problems. Unions lacked an ability to commit to co-operative behaviour and the effort levels required, for example, by mass production methods in the car industry (Lewchuk, 1987).

Together with the expansion of the franchise in 1867 and 1884, the value that employers placed on Victorian industrial relations informed the legal privileges given to trade unions in the 1906 Trade Disputes Act which granted complete legal immunity to trade unions from all actions at tort and went beyond the already extensive immunities thought to have been granted in 1875 (Phelps Brown, 1983).¹¹ This gave trade unions considerably enhanced bargaining power and remained essentially unreformed for over 60 years. If winning elections meant wooing the median voter who was a skilled worker, then this underpinned craft unionism, as 1906 underlined. This sustained an equilibrium that precluded a move to a coordinated market economy.

It might be thought that persistent high unemployment of the interwar period and the unions' defeat in the General Strike of 1926 provided an environment in which the British system of industrial relations would change radically. This was not the case, however; neither the employers nor government attempted significant reform so that the key aspects remained unaltered. The 1927 Trade Disputes and Trade Unions Act left intact the main features of the 1906 Act (Lowe, 1987). Employers sought to assert managerial prerogatives on the shop floor but not to make large investments in new systems of production and managerial control (McKinlay and Zeitlin, 1989). Effort bargains were still made under the auspices of craft unionism but with workers' bargaining power impaired in the years when the labour market was depressed (Lewchuk, 1987).

While the conduct of industrial relations was sensitive to labour market conditions, the structure was still shaped by the inheritance from the 19th century. More unskilled workers were unionized and trade union density in the private sector had risen to 30 per cent by 1935 when collective bargaining covered 36 per cent of workers. Nevertheless, in the late 1930s, the modal form of bargaining was multi-unionism and more than 1,000 unions still survived (Gospel, 2005). The government maintained an approach of 'voluntarism' in which industrial relations problems were to be resolved by bargaining between employers and unions with minimal regulation.

By the third quarter of the 19th century, capital market arrangements had advanced considerably. Hannah (2014) estimated that Britain had a higher ratio of corporate capital to GDP in 1860 (at least 55 per cent) than the United States, France, or Germany. The underpinning for a relatively high level of corporatization and shareholding was not only the legislation of the 1850s which allowed joint-stock limited liability companies but also the availability of a wide menu of corporate forms. Banks were relatively unimportant as delegated monitors and Britain was slow to develop investment

¹¹ Contrary to the intentions of the 1875 legislation, the House of Lords had in 1901 ruled in favour of the Taff Vale Railway Company and awarded damages against the Amalgamated Society of Railway Servants which had organised a strike.

banking, as might be expected in an economy that was rich by the standards of the time with low interest rates, high levels of private wealth and fairly competitive credit markets (Baliga and Polak, 2004).

There is a considerable contrast with the way in which capital markets subsequently developed in Germany which came to rely much more on bank than equity finance and indeed on banks that exercised a significant role in control and monitoring of firms (Guinnane, 2002). Once the two finance systems had been established in the context of different initial conditions in terms of the supply of credit, path dependence was not surprising (Baliga and Polak, 2004). The long-term implication for corporate governance was a much greater separation of ownership and control in Britain than in other countries and there were already precursors of this by the late 19th century. Acheson et al. (2015) found that in companies registered between 1881 and 1902 the median holding of the largest shareholder was 6.4 per cent of the capital and companies were exploiting highly permissive legislation to adopt voting rules that increased the power of directors relative to shareholders (Guinnane et al., 2014). For very large companies in 1911, Foreman-Peck and Hannah (2012) found that the median value of shares held by the directors was only 2.4 per cent.

In the interwar period, the structure of share ownership moved a bit further in the direction of separation of ownership from control under the impetus of the merger boom of the 1920s and of heavier taxation which tended to dilute insider holdings somewhat (Cheffins, 2008). By the 1930s, institutional investors were starting to see the attractions of equities (Scott, 2002), universal suffrage carried the strong possibility of much more progressive taxation and, following the 1931 Royal Mail scandal, accurate disclosure of corporate accounts which would provide the basis for greatly increased merger and acquisition activity was on the horizon (Chambers, 2014). The stage was set for the move to the extreme separation of ownership and control which materialized in the early postwar years.

The origins of the systems of corporate governance and industrial relations which ensured that postwar Britain would be an LME can be traced back to the early industrialization period. If this was the moment when, as the Eichengreen hypothesis implies, the CME came into its own, then this was also the point at which the penalty of the early start came through.

Conclusions

Productivity growth in the British economy compared unfavourably with other leading European economies during the so-called Golden Age of the early postwar period. This sub-par performance left per capita GDP in the early 1970s about 20 per cent lower than might reasonably have been expected. Disappointing productivity growth partly reflected weaker investment in equipment and skills than in more successful countries like West Germany but was also a consequence of continuing inefficient use of inputs. Weak management, dysfunctional industrial relations, and badly-designed economic policy were all implicated in this unfortunate state of affairs.

As it stands, this is a quite conventional but somewhat superficial account of the British productivity failure. Probing a little deeper, it becomes apparent that the policy framework which inhibited productivity growth was to a considerable extent the result of a perceived political imperative to appease organized labour in an attempt to achieve very low unemployment through wage restraint. A key implication of this configuration was weak competition in product markets fostered by

ineffective competition policy, nationalization, and protectionism including remaining outside the EEC. This exacerbated problems of corporate governance and industrial relations inherent in the British 'variety of capitalism' as the economic rents that were generated helped to sustain low effort bargains and managerial incompetence.

The postwar British variety of capitalism was descended from the institutions established during the early years of industrialization. Other varieties of capitalism such as the German style coordinated market economy were better placed to take advantage of the opportunities for fast growth in these years but these were not in the feasible set for Britain given its history.

References

- Acheson, G. G., Campbell, G., Turner, J. D. and Vanteeva, N. (2015), "Corporate Ownership and Control in Victorian Britain", *Economic History Review*, 68, 911-936.
- Acton Society Trust (1956), *Management Succession*. London.
- Aldcroft, D.H. and Oliver, M.J. (2000), *Trade Unions and the Economy: 1870-2000*. Aldershot: Ashgate Publishing.
- Andrews, P.W.S. and Brunner, E. (1950), "Productivity and the Businessman", *Oxford Economic Papers*, 2, 197-225.
- Baliga, S. and Polak, B. (2004), "The Emergence and Persistence of the Anglo-Saxon and German Financial Systems", *Review of Financial Studies*, 17, 129-163.
- Bean, C. and Crafts, N. (1996), "British Economic Growth since 1945: Relative Economic Decline ... and Renaissance?", in N. Crafts and G. Toniolo (eds.), *Economic Growth in Europe Since 1945*. Cambridge: Cambridge University Press, 131-172.
- Blanchflower, D., Oswald, A. and Sanley, P. (1996), "Wages, Profits, and Rent-Sharing", *Quarterly Journal of Economics*, 111, 227-252.
- Bloom, N. and van Reenen, J. (2007), "Measuring and Explaining Management Practices across Firms and Countries", *Quarterly Journal of Economics*, 122, 1351-1408.
- British Parliamentary Papers (1944), *Employment Policy after the War*. Cmnd. 6527.
- Broadberry, S. N. (1994), "Why Was Unemployment in Post-war Britain So Low?", *Bulletin of Economic Research*, 46, 241-261.
- Broadberry, S. and Crafts, N. (2001), "Competition and Innovation in 1950s' Britain", *Business History*, 43, 97-118.
- Broadberry, S. and O'Mahony, M. (2007), "Britain's Twentieth-Century Productivity Performance in International Perspective", in N. Crafts, I. Gazeley and A. Newell (eds.), *Work and Pay in Twentieth-Century Britain*. Oxford: Oxford University Press, 301-329.
- Brown, W., Bryson, A. and Forth, J. (2008), "Competition and the Retreat from Collective Bargaining", National Institute of Economic and Social Research Discussion Paper No. 318.
- Bulpitt, J. and Burnham, P. (1999), "Operation Robot and the British Political Economy in the Early-1950s: the Politics of Market Strategies", *Contemporary British History*, 13, 1-31.
- Chambers, D. (2014), "The City and the Corporate Economy since 1870", In R. Floud, J. Humphries and P. Johnson (eds.), *The Cambridge Economic History of Modern Britain*, vol. 2. Cambridge: Cambridge University Press, 255-278.
- Cheffins, B. R. (2008), *Corporate Ownership and Control: British Business Transformed*. Oxford: Oxford University Press.

- Clarke, R., Davies, S. and Driffield, N. (1998), *Monopoly Policy in the UK: Assessing the Evidence*. Cheltenham: Edward Elgar.
- Corti, G. (1976), "Perspectives on Public Corporations and Public Enterprises in Five Nations", *Annals of Collective Economy*, 47, 47-86.
- Cosh, A. D., Guest, P., and Hughes, A. (2008), "UK Corporate Governance and Takeover Performance", in Gugler, K. and Yurtoglu, B. B. (eds.), *The Economics of Corporate Governance and Mergers*. Cheltenham: Edward Elgar, 226-261.
- Cowan, R. (1990), "Nuclear Power Reactors: a Study in Technological Lock-In", *Journal of Economic History*, 50, 541-567.
- Crafts, N. (2012), "British Relative Economic Decline Revisited: the Role of Competition", *Explorations in Economic History*, 49, 17-29.
- Crafts, N. (2016), "The Growth Effects of EU Membership for the UK: a Review of the Evidence", University of Warwick CAGE Working Paper No. 280.
- Crafts, N. and Mills, T. C. (2005), "TFP Growth in British and German Manufacturing, 1950-1996", *Economic Journal*, 115, 649-670.
- Crouch, C. (1993), *Industrial Relations and European State Traditions*. Oxford: Clarendon Press.
- Eichengreen, B. (1996), "Institutions and Economic Growth: Europe after World War II", in N. Crafts and G. Toniolo (eds.), *Economic Growth in Europe Since 1945*. Cambridge: Cambridge University Press, 38-72.
- Flanagan, R. J., Soskice, D. w. and Ulman, L. (1983), *Unionism, Economic Stabilization, and Incomes Policies: European Experience*. Washington, DC: The Brookings Institution.
- Foreman-Peck, J. and Hannah, L. (2012), "Extreme Divorce: the Managerial Revolution in UK Companies before 1914", *Economic History Review*, 65, 1217-1238.
- Gardner, N. (1976), "The Economics of Launching Aid", in A. Whiting (ed.), *The Economics of Industrial Subsidies*. London: HMSO.
- Geroski, P. (1990), "Innovation, Technological Opportunity, and Market Structure", *Oxford Economic Papers*, 42, 586-602.
- Geroski, P. and Jacquemin, A. (1988), "The Persistence of Profits: a European Comparison", *Economic Journal*, 98, 375-389.
- Gilmore, O. (2009), "Corporatism and Growth: Testing the Eichengreen Hypothesis", MSc. Dissertation, University of Warwick.
- Goodhart, C. A. E. and Bhansali, R. J. (1970), "Political Economy", *Political Studies*, 18, 43-106.
- Gospel, H. (2005), "Markets, Firms and Unions", in S. Fernie and D. Metcalf (eds.), *Trade Unions: Resurgence or Demise?* Abingdon: Routledge, 19-44.

- Gregg, P., Machin, S. and Metcalf, D. (1993), "Signals and Cycles: Productivity Growth and Change in Union Status in British Companies, 1984-9", *Economic Journal*, 103, 894-907.
- Guinnane, T. (2002), "Delegated Monitors, Large and Small: Germany's Banking System, 1890-1914", *Journal of Economic Literature*, 40, 73-124.
- Guinnane, T., Harris, R. and Lamoreaux, N. (2014), "Contractual Freedom and the Evolution of Corporate Control in Britain, 1862 to 1929", NBER Working Paper No. 20481.
- Hall, P. A. and Soskice, D. (2001), "An Introduction to Varieties of Capitalism", in P. A. Hall and D. Soskice (eds.), *Varieties of Capitalism*. Oxford: Oxford University Press, 1-68.
- Hannah, L. (2014), "Corporations in the US and Europe, 1790-1860", *Business History*, 56, 865-899.
- Hanushek, E. A. and Woessmann, L. (2012), "Do Better Schools Lead to More Growth? Cognitive Skills, Economic Outcomes, and Education", *Journal of Economic Growth*, 17, 267-321.
- Haskel, J. (1991), "Imperfect Competition, Work Practices and Productivity Growth", *Oxford Bulletin of Economics and Statistics*, 53, 265-279.
- Henderson, P. D. (1977), "Two British Errors: Their Probable Size and Some Possible Lessons", *Oxford Economic Papers*, 29, 159-205.
- Hendry, J. (1989), *Innovating for Failure: Government Policy and the Early British Computer Industry*. London: MIT Press.
- Hickson, K. (2004), "The Postwar Consensus Revisited", *The Political Quarterly*, 75, 142-154.
- Kavanagh, D. and Morris, P. (1994), "The Rise and Fall of Consensus Politics", in D. Kavanagh and P. Morris (eds.), *Consensus Politics from Attlee to Major*. Oxford: Blackwell.
- Jones, R. (1987), *Wages and Employment Policy, 1936-1985*. London: Allen & Unwin.
- Lazonick, W. (1994), "Employment Relations in Manufacturing and International Competition", in R. C. Floud and D. N. McCloskey (eds.), *The Economic History of Britain since 1700*, vol. 2. Cambridge: Cambridge University Press, 90-116.
- Lewchuk, W. (1987), *American Technology and the British Vehicle Industry*. Cambridge: Cambridge University Press.
- Lowe, R. (1987), "The Government and Industrial Relations, 1919-39", in C. Wrigley (ed.), *A History of British Industrial Relations*, vol. 2, 1914-1939. Brighton: Harvester Press, 185-210.
- Machin, S. and Wadhvani, S. (1989), "The Effects of Unions on Organisational Change, Investment and Employment: Evidence from WIRS Data", London School of Economics Centre for Labour Economics Discussion Paper No. 355.
- Maddison, A. (1992), "A Long-Run Perspective on Saving", *Scandinavian Journal of Economics*, 94, 181-196.

- Maddison, A. (1996), "Macroeconomic Accounts for European Countries", in B. van Ark and N. Crafts (eds.), *Quantitative Aspects of Postwar European Economic Growth*. Cambridge: Cambridge University Press, 27-83.
- Maddison, A. (2010), *Historical Statistics of the World Economy, 1-2008AD*.
[http:// www.ggdc.net/maddison](http://www.ggdc.net/maddison)
- McKinlay, A. and Zeitlin, J. (1989), "The Meanings of Managerial Prerogative: Industrial Relations and the Organisation of Work in British Engineering, 1880-1939", *Business History*, 31, 32-47.
- Meeks, G. (1977), *Disappointing Marriage*. Cambridge: Cambridge University Press.
- Morris, D. J. and Stout, D. (1985), "Industrial Policy", in D. J. Morris (ed.), *The Economic System in the UK*. Oxford: Oxford University Press, 851-894.
- Morrisson, C. and Murtin, F. (2009), "The Century of Education", *Journal of Human Capital*, 3, 1-42.
- Mosley, P. (1984), *The Making of Economic Policy: Theory and Evidence from Britain and the United States since 1945*. Brighton: Wheatsheaf Books.
- Newbould, G. D. (1970), *Management and Merger Activity*. Liverpool: Guthstead.
- Nickell, S. J. (1996), "Competition and Corporate Performance", *Journal of Political Economy*, 104, 724-746.
- Nickell, S.J., Nicolitsas, D., and Dryden, N. (1997), "What Makes Firms Perform Well?", *European Economic Review*, 41, 783-796.
- North, D.C. (1990), *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- OECD (1991), *Main Science and Technology Indicators*. Paris: OECD.
- O'Mahony, M. (1999), *Britain's Productivity Performance, 1950-1996*. London: NIESR.
- Phelps Brown, E. H. (1983), *The Origins of Trade Union Power*. Oxford: Clarendon Press.
- Prais, S. J. (1981), *Productivity and Industrial Structure*. Cambridge, Cambridge University Press.
- Pratten, C. F. (1976), *Labour Productivity Differentials within International Companies*. Cambridge: Cambridge University Press.
- Pratten, C. F. and Atkinson, A. G. (1976), "The Use of Manpower in British Industry", *Department of Employment Gazette*, 84, 571-576.
- Scott, P. (2002), "Towards the 'Cult of the Equity'? Insurance Companies and the Interwar Capital Market", *Economic History Review*, 55, 78-104.
- Singh, A. (1975), "Takeovers, Natural Selection and the Theory of the Firm", *Economic Journal*, 85, 497-515.

- Swords-Isherwood, N. (1980), "British Management Compared", in K. Pavitt (ed.), *Technical Innovation and British Economic Performance*. London: Macmillan, 88-99.
- Symeonidis, G. (2008), "The Effects of Competition on Wages and Productivity: Evidence from the United Kingdom", *Review of Economics and Statistics*, 90, 134-146.
- Tanzi, V. (1969), *The Individual Income Tax and Economic Growth*. Baltimore: Johns Hopkins University Press.
- Temin, P. (2002), "The Golden Age of European Growth Reconsidered", *European Review of Economic History*, 6, 3-22.
- The Conference Board (2016), *Total Economy Database*.
<http://www.conference-board.org/data/economy/database/>
- Tomlinson, J. (1996), "Inventing 'Decline': the Falling Behind of the British Economy in the Postwar Years", *Economic History Review*, 49, 731-757.
- Vickers, J. and Yarrow, G. (1988), *Privatization: an Economic Analysis*. Cambridge, Mass.: MIT Press.
- Woessmann, L. (2016), "The Importance of School Systems: Evidence from International Differences in Student Achievement", *Journal of Economic Perspectives*, 30(3), 3-32.

Table 1. Real GDP/Head (UK = 100 in each year)

	<i>USA</i>	<i>Germany</i>	<i>France</i>
1870	76.6	57.6	58.8
1913	107.7	74.1	70.8
1929	125.3	73.6	85.6
1950	137.8	61.7	74.7
1973	138.8	109.3	106.6
2007	132.9	107.0	98.6
2015	133.4	113.6	96.0

Notes: estimates refer to West Germany from 1950 to 1973. Purchasing power parity estimates in \$1990GK for 1870 through 1979 and in \$2005EKS for 2007 and 2015.

Sources: Maddison (2010) and The Conference Board (2016)

Table 2. Rates of Growth of Real GDP/Person and Real GDP/Hour Worked (% per year)

	<i>Real GDP/Person</i>	<i>Real GDP/Hour Worked</i>
1950-1973		
France	4.02	5.02
West Germany	5.02	5.85
UK	2.42	2.85
USA	2.45	2.56

Source: The Conference Board (2016)

Table 3. Real GDP/Hour Worked (UK = 100 in each year)

	<i>USA</i>	<i>West Germany</i>	<i>France</i>
1950	151.6	54.5	62.5
1973	147.1	110.1	110.9

Source: The Conference Board (2016)

Table 4. Investment in Broad Capital, 1970

	<i>France</i>	<i>West Germany</i>	<i>UK</i>	<i>USA</i>
Non-Residential Investment (%GDP)	16.3	19.6	14.6	13.5
Years of Schooling, ages 15-64	10.4	11.1	10.3	11.1
Higher Level Qualifications (% workers)	5.6	4.2	8.3	18.7
Intermediate Level Qualifications (% workers)	54.9	61.2	28.2	17.4
R & D Expenditure (%GDP)	1.9	2.1	2.2	2.6

Note: investment is average of 1960-73, qualifications data are for 1979.

Sources: investment from Maddison (1992), schooling from Morrison and Murtin (2009), qualifications from Broadberry and O'Mahony (2007), and R & D from OECD (1991)

Table 5. Contributions to Labour Productivity Gap (percentage points)

	<i>Labour Quality</i>	<i>Capital Intensity</i>	<i>TFP</i>	<i>Total</i>
<i>USA/UK</i>				
1910	-1.9	30.1	-10.5	17.7
1950	0.3	20.9	45.7	66.9
1973	1.9	10.8	39.6	52.3
<i>Germany/UK</i>				
1910	-0.1	0.2	-24.6	-24.5
1950	-0.6	-2.6	-22.6	-25.6
1973	9.5	5.4	-0.9	14.0

Note: derived using a standard growth accounting formula

Source: Broadberry and O'Mahony (2007)

Table 6. Labour Productivity in Multinational Companies, 1972

	<i>German Advantage over UK (%)</i>	<i>American Advantage over UK (%)</i>
'Economic Causes'		
Length of Production Runs	5.5	20.5
Plant and Machinery	5	6
Other	2	6
'Behavioural Causes'		
Strikes and Restrictive Practices	3.5	5
Manning and Efficiency	8.5	6
Total	27	50

Note: contributions to the total differential are multiplicative; other economic causes include product mix, capacity utilization and quality of materials

Source: Pratten (1976)